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22885 7590 04/20/2007 MCKEE, VOORHEES & SEASE, P.L.C. 801 GRAND AVENUE SUITE 3200 DES MOINES, IA 50309-2721			EXAMINER DEAN, RAYMOND S	
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SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
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Office Action Summary

Application No.

10/042,863

Applicant(s)

BOESEN, PETER V.

Examiner

Raymond S. Dean

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2007.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37, 42 and 50 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-37, 42 and 50 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 02 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 – 37, 42, and 50 have been considered but are moot in view of the new ground(s) of rejection.

Regarding Claims 1 – 21, 23 – 24, 36 – 37, 50

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Additionally, Puthuff teaches an earpiece comprising a digital processor (Figures 1, 3, Column 2 lines 58 – 63, Column 3 lines 36 – 38, lines 44 – 56). Figure 3 clearly shows that the digital controller chip (32) conducts the digital processing of signals after said signals are received and prior to the transmission of said signals. Furthermore, packetizing, decimation etc. are steps in digital processing. Aoki teaches an earpiece with a plurality of input sensors (Figure 1, Column 6 lines 23 – 43). The combination of Puthuff and Aoki renders the limitation in question.

Regarding Claims 25 – 30

Examiner respectfully disagrees with Applicants' assertion "None of the cited references discloses the step ..." for the same reasons set forth above.

Regarding Claims 31 – 35

Ditzik teaches wirelessly sending an air conduction signal to a computer via a short range RF path via a short range RF path (See Figure 7, Column 8 lines 38 – 42). Aoki teaches transducing a bone conduction signal (Column 6 lines 23 – 43). The combination Ditzik and Aoki teaches the limitation in question.

Regarding Claim 42

Norris teaches an embodiment in which the earpiece structure does not extend into the ear canal therefore eliminating any discomfort (Col. 5 lines 35 – 39). If the earpiece structure does not extend into the ear canal said ear canal is not occluded.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 – 6, 8 – 18, 24, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ditzik (5,983,073) in view of Puthuff et al. (6,021,207) and in further view of Aoki et al. (5,933,506).

Regarding Claim 1, Ditzik teaches a system comprising: a computer having a housing (Figure 3a); a short-range transceiver operatively connected to the computer (Figure 3a, Figure 7, Column 8 lines 14 – 19, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the earset can communicate with the wireless communication means of the computer over a short range thus said wireless communication means comprises a short range transceiver); a hands-free voice communications device unit in communication with the short-range transceiver (Figure 3a, Figure 7, Column 8 lines 25 – 27, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the earset is the hands-free voice communications unit); wherein the hands-free voice communication device unit comprises an input sensor, a processor operatively connected to the sensor, a speaker, and a second short range transceiver operatively connected to the processor and the speaker (Figure 3a, Figure 7, Column 8 lines 25 – 27, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the ear set of Ditzik comprises a speaker enabling the user to hear the audio data, a short range transceiver for short range communications with the computer, and a microphone, which is an input sensor, the incoming signals to the ear set must be processed such that intelligible audio is output from the speaker, the outgoing signals from the ear set must be processed such that said signals will be proper for short range transmission thus there will be an inherent processing means coupled to the input sensor, speaker, and short range transceiver); the computer adapted to receive voice sound information from a transceiver; and the computer adapted to send voice sound information to the transceiver (Figure 3b, Figure 7, Column 8 lines 8 – 11, Column 8 lines 59 – 64, the wireless communication means also

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comprises a transceiver for data/voice communications, said wireless communication means along with the microphone and speakers give the computer wireless phone capability).

Ditzik does not specifically teach a computer adapted to receive voice sound information from a short-range transceiver; the computer adapted to send voice sound information to the short-range transceiver, and wherein the hands-free voice communication device unit comprises a plurality of input sensors, and wherein the hands-free voice communications device comprises a digital processor operatively connected to the plurality of input sensors and adapted for receiving input signals from the plurality of input sensors and processing the input signals prior to transmission

Puthuff teaches a computer adapted to receive voice sound information from a short-range transceiver and the computer adapted to send voice sound information to the short-range transceiver (Figures 4a, 4b, Column 5 lines 30 – 32, lines 45 – 50, lines 60 – 63, the PCN is the short-range transceiver), and a hands-free voice communications device comprises a digital processor operatively connected to an input sensor and adapted for receiving input signals from the input sensor and processing the input signals prior to transmission (Figures 1, 3, Column 2 lines 58 – 63, Column 3 lines 36 – 38, lines 44 – 50, See also Arguments set forth above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the PCN circuitry taught by Puthuff in the computer of Ditzik and the digital processor taught by Puthuff in the ear piece of Ditzik for the purposes of

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enabling remote voice control of said computer and providing optimal hearing of the usable audible frequency range as taught by Puthuff.

Ditzik in view of Puthuff does not teach wherein the hands-free voice communication device unit comprises a plurality of input sensors.

Aoki teaches a hands-free voice communication device unit that comprises a plurality of input sensors (Figure 1, Column 6 lines 23 – 43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the earset of Ditzik in view of Puthuff with the ear piece circuitry of Aoki for the purpose of providing an earset that automatically processes the speech sending signal in accordance with use environments, that have high noise and ambient noise, to send speech of the best tone quality as taught by Aoki.

Regarding Claim 3, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Aoki further teaches an earpiece shaped to position at least one of the input sensors within an external auditory canal of a user (Figure 1, Column 6 lines 23 – 43).

Regarding Claim 4, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Aoki further teaches a bone conduction sensor (Column 6 lines 23 – 43).

Regarding Claim 5, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Aoki further teaches an air conduction sensor (Column 6 lines 23 – 43).

Regarding Claim 6, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Aoki further teaches both an air conduction sensor and a bone conduction sensor (Column 6 lines 23 – 43).

Regarding Claim 8, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 3. Aoki further teaches a bone conduction sensor (Column 6 lines 23 – 43).

Regarding Claim 9, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 3. Aoki further teaches both an air conduction sensor and a bone conduction sensor (Column 6 lines 23 – 43).

Regarding Claim 10, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 3. Aoki further teaches an air conduction sensor (Column 6 lines 23 – 43).

Regarding Claim 11, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Ditzik further teaches wherein the short-range transceiver is disposed within the housing of the computer (Figure 3a, Figure 7, Column 8 lines 14 – 19, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the earset can communicate with the wireless communication means of the computer over a short range thus said wireless communication means comprises a short range transceiver).

Regarding Claim 12, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 10. Ditzik further teaches an antenna electrically connected to the short-range transceiver at least partially extending beyond the housing (Figure 3a, Column 8 lines 14 – 19).

Regarding Claim 13, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Ditzik further teaches a voice transceiver operatively connected to the computer (Figure 3b, Figure 7, Column 8 lines 8 – 11, Column 8 lines 59 – 64, the wireless communication means also comprises a transceiver for voice/data communications over a cellular network thus said wireless communication means will also comprise a voice transceiver for the transmission and reception of voice), the computer adapted to receive voice sound information from the voice transceiver and the computer adapted to send voice sound information to the voice transceiver (Figure 3b, Figure 7, Column 8 lines 8 – 11, Column 8 lines 59 – 64).

Regarding Claim 14, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 13. Ditzik further teaches wherein the voice transceiver is disposed within the housing of the computer (Figure 3b, Figure 7, Column 8 lines 8 – 11, Column 8 lines 59 – 64).

Regarding Claim 15, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 13. Puthuff further teaches an antenna electrically connected to the voice transceiver at least partially extending beyond the housing (Figures 4a, 4b, Column 5 lines 30 – 32, the PCN, which is the voice transceiver, will have an antenna to enable wireless communication with the earpiece).

Regarding Claim 16, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 13. Ditzik further teaches wherein the short-range transceiver and the voice transceiver are disposed within the housing (Figure 3a, Figure 7, Column 8 lines 14 – 19, Column 8 lines 8 – 11, Column 8 lines 32

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– 35, Column 8 lines 38 – 42, Column 8 lines 59 – 64, the earset can communicate with the wireless communication means of the computer over a short range thus said wireless communication means comprises a short range transceiver, the wireless communication means also comprises a transceiver for data/voice communications, thus said wireless communication means will also comprise a voice transceiver for the transmission and reception of voice).

Regarding Claim 17, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 13. Puthuff further teaches wherein the voice transceiver is contained within a removable telephone transceiver module (Figure 4a, the PCN, which is the voice transceiver, can be attached to and removed from a cellular phone via connecting and disconnecting the cable).

Regarding Claim 18, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 17. Ditzik further teaches wherein the removable module is housed within a PC card (Column 4 lines 50 – 53, the PCMCIA card, which houses the wireless communication means, is removable).

Regarding Claim 24, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Ditzik further teaches wherein the hands-free voice communications unit includes a short-range transceiver (Column 8 lines 22 – 25, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the earset can communicate with the wireless communication means of the computer over a short range).

Regarding Claim 36, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 13. Ditzik further teaches wherein the voice transceiver is adapted for cellular communications (Figure 3b, Figure 7, Column 2 lines 57 – 60).

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ditzik (5,983,073) in view of Puthuff et al. (6,021,207) in further view of Aoki et al. (5,933,506) as applied to Claim 1 above, and further in view of Eghtesadi et al. (5,982,904).

Regarding Claim 2, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Ditzik in view of Puthuff and in further view of Aoki does not teach a headset.

Eghtesadi teaches a headset (Column 2 lines 45 – 48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the headset taught by Eghtesadi as an alternative means for hands-free communication in the system of Ditzik in view of Puthuff and in further view of Aoki.

5. Claims 7 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ditzik (5,983,073) in view of Puthuff et al. (6,021,207) in further view of Aoki et al. (5,933,506) as applied to Claim 1 above, and further in view of Norris (5,363,444).

Regarding Claim 7, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Ditzik in view of Puthuff and in further

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view of Aoki does not teach an earpiece shaped and sized so as not to occlude the external auditory canal of the user.

Norris teaches an earpiece structure that is size and shaped so as not to occlude an external auditory canal (Figure 4, Column 5 lines 26 – 39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ear set of Ditzik in view of Puthuff and in further view of Aoki with the structure of Norris for the purpose of preventing any discomfort or unique fitting requirements as taught by Norris.

Regarding Claim 50, Ditzik teaches a system comprising: a computer having a housing (Figure 3a); a short-range transceiver operatively connected to the computer (Figure 3a, Figure 7, Column 8 lines 14 – 19, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the earset can communicate with the wireless communication means of the computer over a short range thus said wireless communication means comprises a short range transceiver); a voice transceiver operatively connected to the computer (Figure 3b, Figure 7, Column 8 lines 8 – 11, Column 8 lines 59 – 64, the wireless communication means also comprises a transceiver for voice/data communications over a cellular network thus said wireless communication means will also comprise a voice transceiver for the transmission and reception of voice); a hands-free voice communications device unit in communication with the short-range transceiver (Figure 3a, Figure 7, Column 8 lines 25 – 27, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the earset is the hands-free voice communications unit); the hands-free device comprising a processor operatively connected to a sensor, a speaker, and a second

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short range transceiver (Figure 3a, Figure 7, Column 8 lines 25 – 27, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the ear set of Ditzik comprises a speaker enabling the user to hear the audio data, a short range transceiver for short range communications with the computer, and a microphone, which is an input sensor, the incoming signals to the ear set must be processed such that intelligible audio is output from the speaker, the outgoing signals from the ear set must be processed such that said signals will be proper for short range transmission thus there will be an inherent processing means coupled to the input sensor, speaker, and short range transceiver); and the computer adapted to send voice sound information to the voice transceiver (Figure 3b, Figure 7, Column 8 lines 8 – 11, Column 8 lines 59 – 64, the wireless communication means also comprises a transceiver for data/voice communications, said wireless communication means along with the microphone and speakers give the computer wireless phone capability).

Ditzik does not specifically teach a computer adapted to receive voice sound information from a short-range transceiver; and the computer adapted to send voice sound information to the short-range transceiver, a hands-free device comprising a plurality of input sensors, and being sized and shaped so as not to occlude an external auditory canal of a user while sensing voice sound information from the plurality of input sensors and wherein the hands-free voice communications device comprises a digital processor operatively connected to a plurality of input sensors and adapted for receiving input signals from the plurality of input sensors and processing the input signals prior to transmission.

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Puthuff teaches a computer adapted to receive voice sound information from a short-range transceiver and the computer adapted to send voice sound information to the short-range transceiver (Figures 4a, 4b, Column 5 lines 30 – 32, lines 45 – 50, lines 60 – 63, the PCN is the short-range transceiver) and wherein the hands-free voice communications device comprises a digital processor operatively connected to an input sensor and adapted for receiving input signals from the input sensor and processing the input signals prior to transmission (Figures 1, 3, Column 2 lines 58 – 63, Column 3 lines 36 – 38, lines 44 – 50, See also Arguments set forth above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the PCN circuitry taught by Puthuff in the computer of Ditzik and the digital processor taught by Puthuff in the ear piece of Ditzik for the purposes of enabling remote voice control of said computer and providing optimal hearing of the usable audible frequency range as taught by Puthuff.

Ditzik in view of Puthuff does not teach a hands-free device comprising a plurality of input sensors and being sized and shaped so as not to occlude an external auditory canal of a user while sensing voice sound information from the plurality of sensors.

Aoki teaches a hands-free device comprising a plurality of input sensors and a plurality of sensors sensing voice sound information (Figure 1, Column 6 lines 23 – 43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the earset of Ditzik in view of Puthuff with the ear piece circuitry of Aoki for the purpose of providing an earset that automatically processes the

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speech sending signal in accordance with use environments, that have high noise and ambient noise, to send speech of the best tone quality as taught by Aoki.

Ditzik in view of Puthuff and in further view of Aoki does not teach wherein the hands-free voice communication unit is sized and shaped so as not to occlude the external auditory canal of a user while the plurality of sensors are sensing the voice sound information.

Norris teaches an earpiece structure that is size and shaped so as not to occlude an external auditory canal (Figure 4, Column 5 lines 26 – 39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ear set of Ditzik in view of Puthuff and in further view of Aoki with the structure of Norris for the purpose of preventing any discomfort or unique fitting requirements as taught by Norris.

6. Claims 19 – 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ditzik (5,983,073) in view of Puthuff et al. (6,021,207) in further view of Aoki et al. (5,933,506) as applied to Claims 1, 13 above, and further in view of Gradelier (5,701,515).

Regarding Claim 19, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Ditzik in view of Puthuff and in further view of Aoki does not teach wherein the short-range transceiver is a removable short-range transceiver module.

Gradeler teaches wherein the short-range transceiver is a removable short-range transceiver module (Column 10 lines 1 – 12).

Ditzik in view of Puthuff in further view of Aoki and Gradeler teach removable PCMCIA card that comprise wireless transceivers. Ditzik in view of Puthuff in further view of Aoki and Gradeler also teach short-range communications thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the PCMCIA card of Ditzik in view of Puthuff and in further view of Aoki with the PCMCIA short-range circuitry of Gradeler thus providing an alternative and/or additional short-range communication means.

Regarding Claim 20, Ditzik in view of Puthuff and in view of Aoki and in further view of Gradeler teaches all of the claimed limitations recited in Claim 19. Gradeler further teaches wherein the short-range transceiver module is housed within a PC card (Column 10 lines 1 – 12).

Regarding Claim 21, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 13. Ditzik further teaches wherein the voice transceiver is housed within a removable module (Column 4 lines 50 – 53, the PCMCIA card, which houses the wireless communication means, which comprises the voice transceiver, is removable).

Ditzik in view of Puthuff and in further view of Aoki does not teach wherein the short-range transceiver is housed within a removable module.

Gradeler teaches wherein the short-range transceiver is housed within a removable module (Column 10 lines 1 – 12).

Ditzik in view of Puthuff in further view of Aoki and Gradeler teach removable PCMCIA card that comprise wireless transceivers. Ditzik in view of Puthuff in further view of Aoki and Gradeler also teach short-range communications thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the PCMCIA card of Ditzik in view of Puthuff and in further view of Aoki with the PCMCIA short-range circuitry of Gradeler thus providing an alternative and/or additional short-range communication means.

Regarding Claim 22, Ditzik in view of Puthuff in view of Aoki and in further view of Gradeler teaches all of the claimed limitations recited in Claim 21. Ditzik further teaches wherein the removable module is a PC card (Column 4 lines 50 – 53, the PCMCIA card is a PC card).

Regarding Claim 23, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 13. Ditzik further teaches wherein a voice transceiver is electrically connected to the removable module (Column 4 lines 50 – 53, the PCMCIA card houses the wireless communication means, which comprises the voice transceiver).

Ditzik in view of Puthuff and in further view of Aoki does not teach wherein the short-range transceiver is housed within a removable module.

Gradeler teaches wherein the short-range transceiver is housed within a removable module (Column 10 lines 1 – 12).

Ditzik in view of Puthuff in further view of Aoki and Gradeler teach removable PCMCIA card that comprise wireless transceivers. Ditzik in view of Puthuff in further

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view of Aoki and Gradeler also teach short-range communications thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the PCMCIA card of Ditzik in view of Puthuff and in further view of Aoki with the PCMCIA short-range circuitry of Gradeler thus providing an alternative and/or additional short-range communication means.

7. Claims 25 – 29, 31 – 35, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ditzik (5,983,073) in view of Aoki et al. (5,933,506) and in further view of Norris (5,363,444).

Regarding Claim 25, Ditzik teaches a method of voice communication comprising: sensing voice sound information using an input sensor of a hands-free voice communication unit (Col. 8 lines 22 – 25); processing the voice sound information from the sensor using a processor within the hands-free voice communication unit (Col. 8 lines 22 – 27, the voice or audio from the microphone will be processed in order to be transmitted via the short range RF path); after processing, transceiving voice sound information between the hands-free voice communication unit and a computer over a short-range first communications channel (Figure 3a, Figure 7, Column 8 lines 14 – 19, Column 8 lines 25 – 27, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the earset is the hands-free voice communications unit, said earset can communicate with the wireless communication means of the computer over a short range link); transceiving voice sound information between the computer and a remote location over a second communications channel (Column 8 lines 43 – 45, the computer will relay voice

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information via the wireless communication means on a channel configured for transmitting to a wide area network such as a PCS network).

Ditzik does not teach a hands-free voice communication unit comprising a plurality of sensors and wherein the hands-free voice communication unit is sized and shaped so as not to occlude the external auditory canal of a user while the plurality of sensors are sensing the voice sound information.

Aoki teaches a hands-free voice communication device unit that comprises a plurality of input sensors (Figure 1, Column 6 lines 23 – 43). Aoki further teaches an earpiece in which the sensors are sensing voice sound information (See Column 6 lines 23 – 43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the earset of Ditzik with the ear piece circuitry of Aoki for the purpose of providing an earset that automatically processes the speech sending signal in accordance with use environments, that have high noise and ambient noise, to send speech of the best tone quality as taught by Aoki.

Ditzik in view of Aoki does not teach wherein the hands-free voice communication unit is sized and shaped so as not to occlude the external auditory canal of a user while the plurality of sensors are sensing the voice sound information.

Norris teaches an earpiece structure that is size and shaped so as not to occlude an external auditory canal (Figure 4, Column 5 lines 26 – 39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ear set of Ditzik in view of Aoki with the structure of

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Norris for the purpose of preventing any discomfort or unique fitting requirements as taught by Norris.

Regarding Claim 26, Ditzik in view of Aoki and in further view of Norris teaches all of the claimed limitations recited in Claim 25. Ditzik further teaches processing voice sound information (Figure 3b, Figure 7, Column 8 lines 8 – 11, Column 8 lines 59 – 64, the computer can transmit and receive voice information via the wireless communication means thus there will be processing of said voice information).

Regarding Claim 27, Ditzik in view of Aoki and in further view of Norris teaches all of the claimed limitations recited in Claim 25. Ditzik further teaches transducing voice sound information at the hands-free voice communication unit (Column 8 lines 22 – 27, Column 8 lines 38 – 42, the sound energy will be converted to electrical energy for transmission to the computer).

Regarding Claim 28, Ditzik in view of Aoki and in further view of Norris teaches all of the claimed limitations recited in Claim 26. Aoki further teaches transducing a bone conduction signal (Column 6 lines 23 – 43).

Regarding Claim 29, Ditzik in view of Aoki and in further view of Norris teaches all of the claimed limitations recited in Claim 25. Ditzik further teaches identifying the hands-free voice communication unit (Column 8 lines 25 – 27, Column 8 lines 38 – 42, the earset uses a short-range communication protocol such as Bluetooth to communicate with the notebook, the Bluetooth protocol uses a polling method in which a master device (notebook) polls the slave devices (earset) and receives an active

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member address (AM_ADDR), which is the identifier, from said slave devices, the access will be granted based on the validity of said AM_ADDR).

Regarding Claim 31, Ditzik teaches a method of voice communication comprising: transducing a signal at an earpiece (Column 8 lines 22 – 27, Column 8 lines 38 – 42, the sound energy will be converted to electrical energy for transmission to the computer); wirelessly sending the signal to a computer (Figure 7, Column 8 lines 38 – 42); creating a voice sound signal at least partially based on a voice signal at the computer (Column 8 lines 43 – 45, the voice signal will sent to the computer and the computer will retransmit said signal to the wide area network, said retransmission occurs do to the reception of the voice signal from the earpiece thus the computer will create a voice signal based on the voice signal received from the earpiece) transmitting the voice sound signal over a voice communications channel (Column 8 lines 43 – 45).

Ditzik does not teach a bone conduction signal and wherein the earpiece is sized and shaped so as not to occlude the external auditory canal of a user while transducing the bone conduction signal.

Aoki teaches transducing a bone conduction signal (Column 6 lines 23 – 43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the earset of Ditzik with the ear piece circuitry of Aoki for the purpose of providing an earset that automatically processes the speech sending signal in accordance with use environments, that have high noise and ambient noise, to send speech of the best tone quality as taught by Aoki.

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Ditzik in view of Aoki does not teach wherein the earpiece is sized and shaped so as not to occlude the external auditory canal of a user while transducing the bone conduction signal.

Norris teaches an earpiece structure that is size and shaped so as not to occlude an external auditory canal (Figure 4, Column 5 lines 26 – 39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ear set of Ditzik in view of Aoki with the structure of Norris for the purpose of preventing any discomfort or unique fitting requirements as taught by Norris.

Regarding Claim 32, Ditzik in view of Aoki and in further view of Norris teaches all of the claimed limitations recited in Claim 31. Ditzik further teaches transducing an air conduction signal and wherein the voice sound signal is at least partially based on the air conduction signal (Column 8 lines 43 – 45, the voice signal will sent to the computer and the computer will retransmit said signal to the wide area network, said retransmission occurs do to the reception of the voice signal from the earpiece thus the computer will create a voice signal based on the voice signal received from the earpiece).

Regarding Claim 33, Ditzik in view of Aoki and in further view of Norris teaches all of the claimed limitations recited in Claim 32. Ditzik further teaches wherein the air conduction signal is transduced at an earpiece (Column 8 lines 22 – 27, the earset comprises a microphone, which is an air conduction sensor, thus an air conduction

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signal will be converted to a voice sound signal when a user speaks into said microphone).

Regarding Claim 34, Ditzik in view of Aoki and in further view of Norris teaches all of the claimed limitations recited in Claim 32. Ditzik further teaches wherein the air conduction signal is transduced at the computer (Figure 3b, Figure 7, Column 8 lines 8 – 11, Column 8 lines 59 – 64, the microphone is an air conduction sensor thus when the user speaks into said microphone an air conduction signal will be converted to a voice sound signal).

Regarding Claim 35, Ditzik in view of Aoki and in further view of Norris teaches all of the claimed limitations recited in Claim 33. Ditzik further teaches transducing a second air conduction signal at the computer wherein the voice sound signal is at least partially based on the second air conduction signal (Figure 3b, Figure 7, Column 8 lines 8 – 11, Column 8 lines 59 – 64, the user at the computer can speak into the microphone a plurality of times thus there will be a second air conduction signal that will be converted to a voice sound signal).

Regarding Claim 42, Ditzik teaches a communications system comprising: a computer (Figure 3a, Figure 7); a short-range transceiver operatively connected to the computer (Figure 3a, Figure 7, Column 8 lines 14 – 19, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the earset can communicate with the wireless communication means of the computer over a short range thus said wireless communication means comprises a short range transceiver); a voice transceiver operatively connected to the computer (Figure 3b, Figure 7, Column 8 lines 8 – 11, Column 8 lines 59 – 64, the wireless

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communication means also comprises a transceiver for voice/data communications over a cellular network thus said wireless communication means will also comprise a voice transceiver for the transmission and reception of voice); and a hands-free voice communications device having an air conduction sensor in communication with the short-range transceiver (Figure 3a, Figure 7, Column 8 lines 22 – 27, Column 8 lines 32 – 35, Column 8 lines 38 – 42, the earset is the hands-free voice communications unit, the microphone is the air conduction sensor).

Ditzik does not teach a hands-free voice communications device having an air conduction sensor and a bone conduction sensor in communication with the short-range transceiver and wherein the hands-free voice communication unit is sized and shaped so as not to occlude an external auditory canal of a user.

Aoki teaches a hands-free voice communications device having an air conduction sensor and a bone conduction sensor (Column 6 lines 23 – 43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the earset of Ditzik with the ear piece circuitry of Aoki for the purpose of providing an earset that automatically processes the speech sending signal in accordance with use environments, that have high noise and ambient noise, to send speech of the best tone quality as taught by Aoki.

Ditzik in view of Aoki does not teach wherein the hands-free voice communication unit is sized and shaped so as not to occlude the external auditory canal of a user.

Norris teaches an earpiece structure that is size and shaped so as not to occlude an external auditory canal (Figure 4, Column 5 lines 26 – 39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ear set of Ditzik in view of Aoki with the structure of Norris for the purpose of preventing any discomfort or unique fitting requirements as taught by Norris.

8. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ditzik (5,983,073) in view of Aoki et al. (5,933,506) in further view of Norris (5,363,444) as applied to Claim 25 above, and further in view of Talmor et al. (5,913,196).

Regarding Claim 30, Ditzik in view of Aoki and in further view of Norris teaches all of the claimed limitations recited in Claim 25. Ditzik in view of Aoki and in further view of Norris does not teach comparing the voice sound information to voice sound information from a known source for security purposes.

Talmor teaches comparing the voice sound information to voice sound information from a known source for security purposes (Column 5 lines 18 – 29, Column 7 lines 53 – 62, Column 8 lines 6 – 9, in order to authenticate the speaker's voice there will be a comparison between the speaker's voice and a known sound).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the authentication method taught in Talmor in the computer of Ditzik in view of Aoki and in further view of Norris as an alternative means for preventing an unauthorized user of the earpiece, such as any use with a short range

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earpiece, from communicating with the computer for further access to the wide area network as taught by Talmor.

9. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ditzik (5,983,073) in view of Puthuff (6,112,103) and in further view of Aoki et al. (5,933,506) as applied to Claim 1 above, and further in view of Ramesh et al. (5,943,324).

Regarding Claim 37, Ditzik in view of Puthuff and in further view of Aoki teaches all of the claimed limitations recited in Claim 1. Ditzik in view of Puthuff and in further view of Aoki does not teach wherein the voice transceiver is adapted for satellite communications.

Ramesh teaches wherein the transceiver is adapted for satellite communications (Column 4 lines 36 – 42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the satellite transceiver taught in Ramesh in the mobile computer of Ditzik in view of Puthuff and in further view of Aoki for the purpose of enabling the computer to communicate using a satellite network thus creating a more versatile mobile computer.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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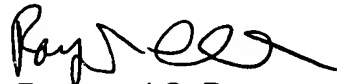
§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Raymond S. Dean
April 10, 2007



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